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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,346	07/02/2004	Hon-Yuan Lco	12851-US-PA	4345

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JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE  
7 FLOOR-1, NO. 100  
ROOSEVELT ROAD, SECTION 2  
TAIPEI, 100  
TAIWAN

EXAMINER
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XIAO, KE

ART UNIT	PAPER NUMBER
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2629

NOTIFICATION DATE	DELIVERY MODE
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12/03/2007

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

**Office Action Summary**

Application No.

10/710,346

Applicant(s)

LEO ET AL.

Examiner

Ke Xiao

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2 and 4-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1, 2, 4, 5, 7-9 and 13-15** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Tsuzuki (US 5,745,093).

Regarding **Claim 1**, Tsuzuki teaches a liquid crystal panel (Tsuzuki, Fig. 4) comprising:

a display area having MxN pixels for providing MxN resolution, each of the pixels including K subpixels (Tsuzuki, Fig. 4 pixels in delta formation each with RGB subpixels);

a row driver having IxN scan lines coupled to the display area (Tsuzuki, Fig. 4 element 3 2xN scan lines); and

a column driver, receiving a pixel data including a subpixel data XT, YT, and ZT at period T, having JxM data lines coupled to the display area for cooperating with the row driver to complete driving M pixels on a same row in the display area after the row driver scans I times, wherein T is an integer (Tsuzuki, Fig. 4 RGB signals are steamed to the sample and hold circuits one pixel at a time),  $I \times J = K$ , and  $1 < I, J < K$  (Tsuzuki, Fig. 4, K is 3, I is 2 and J is 1.5), and the column driver includes:

an even column driver receiving a portion of the pixel data for driving an even portion of the JxM data lines in the display area, wherein the even column driver receives the subpixel data XT and ZT when the period  $T=4s$ , receives the subpixel data YT and ZT when the period  $T=4s+1$ , receives the subpixel data YT when the period  $T=4s+2$ , and receives the subpixel data XT when the period  $T=4s+3$ , s being an integer (Tsuzuki, Fig. 4,  $T=0$  RB,  $T=1$  BG,  $T=2$  G,  $T=3$  R); and

an odd column driver receiving a portion of the pixel data for driving an odd portion of the JxM data lines in the display area, wherein the odd column driver receives the subpixel data YT when the period  $T=4s$ , receives the subpixel data XT when the period  $T=4s+1$ , receives the subpixel data XT and ZT when the period  $T=4s+2$ , and receives the subpixel data YT and ZT when the period  $T=4s+3$  (Tsuzuki, Fig. 4,  $T=0$  G,  $T=1$  R,  $T=2$  RB,  $T=3$  GB).

Regarding **Claim 7**, Tsuzuki teaches a method for driving a liquid crystal panel having a display area having MxN pixels for providing MxN resolution, each of the pixels including K subpixels (Tsuzuki, Fig. 4), the method comprising:

providing a pixel data including subpixel data XT, YT and ZT at period T, there T is an integer (Tsuzuki, Fig. 4, RGB):

inputting the subpixels data XT and ZT to an even column driver and providing the subpixel data YT to an odd column driver when the period  $T=4s$ , wherein s is an integer (Tsuzuki, Fig. 4,  $T=0$  RB even G odd);

inputting the subpixels data YT and ZT to an even column driver and providing the subpixel data XT to an odd column driver when the period  $T=4s+1$  (Tsuzuki, Fig. 4,  $T=1$  BG even R odd);

inputting the subpixels data XT and ZT to an even column driver and providing the subpixel data YT to an odd column driver when the period  $T=4s+2$  (Tsuzuki, Fig. 4,  $T=2$  G even RB odd);

inputting the subpixels data XT and ZT to an even column driver and providing the subpixel data YT to an odd column driver when the period  $T=4s+3$  (Tsuzuki, Fig. 4,  $T=3$  R even BG odd);

scanning  $I \times N$  scan lines in the display area in sequence (Tsuzuki, Fig. 4 scan lines are scanned in a progressive sequence); and

providing  $J \times M$  subpixel data to  $J \times M$  data lines in the display area after scanning each of the  $I \times N$  scan lines to complete driving  $M$  pixels on a same row in the display area after scanning the scan lines for  $I$  times using the even column driver and the odd column driver (Tsuzuki, Fig. 4, two scan lines must be scanned for each pixel row);

where  $I \times J = K$ , and  $1 < I$ ,  $J < K$  (Tsuzuki, Fig. 4,  $K$  is 3,  $I$  is 2 and  $J$  is 1.5).

Regarding **Claims 2 and 8**, Tsuzuki further teaches that  $K$  is 3,  $I$  is 2 and  $J$  is 1.5 (Tsuzuki, Fig. 4,  $K$  is 3,  $I$  is 2 and  $J$  is 1.5).

Regarding **Claim 4**, Tsuzuki further teaches that the row driver includes:

an even row driver for driving an even portion of  $I \times N$  scan lines in the display area (Tsuzuki, Fig. 4 element 3,  $Y_{n1}$ ); and

an odd row driver for driving an odd portion of the  $I \times N$  scan lines in the display area (Tsuzuki, Fig. 4 element 3,  $Y_n2$ ).

Regarding **Claim 5**, Tsuzuki further teaches that  $M \times N$  pixels are arranged in a delta manner (Tsuzuki, Fig. 4 delta configuration).

Regarding **Claim 9**, Tsuzuki further teaches that the step of scanning the  $I \times N$  scan lines comprises scanning the  $I \times N$  scan lines in sequence from top to bottom (Tsuzuki, Fig. 4 scan lines are scanned in a progressive sequence from top to bottom).

Regarding **Claim 13**, Tsuzuki further teaches a timing sequence driving method for a timing sequence control circuit, the timing sequence driving method at least comprising the method for driving the liquid crystal panel of claim 7 (Tsuzuki, Fig. 4, a timing circuit is used to control the timing of the drivers).

Regarding **Claims 14 and 15**, Tsuzuki further teaches that the XT, YT and ZT are red subpixel data RT, green subpixel data GT, and blue subpixel data BT, respectively (Tsuzuki, Fig. 4, RGB).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 6** is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuzuki (US 5,745,093) in view of the applicant's admitted prior art (AAPA).

Regarding **Claim 6**, Tsuzuki fails to teach a liquid crystal display projector system comprising the liquid crystal panel of Claim 1. The AAPA teaches that it is well known in the art to use liquid crystal display systems in projection systems (AAPA, Pg. 1 paragraph [0010]). It would have been obvious to one of ordinary skill in the art at the time of the invention to use the liquid crystal display panel of Tsuzuki in a projection system as taught by the AAPA in order to more easily realize a larger display.

**Claims 10-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuzuki (US 5,745,093).

Regarding **Claims 10-12**, Tsuzuki fails to teach scanning the scan lines from bottom to top and providing the data from left to right or from right to left. Since the applicant has failed to disclose that the direction of scanning or providing data provides an advantage, is used for a particular purpose, or solves a stated problem, it is an obvious matter of design choice to have scanned and provided the data sequentially in any direction. Therefore it would have been obvious to one of ordinary art at the time of the invention to scan from top to bottom or bottom to top and to provide the data from left to right or right to left because it would have accomplished the purpose of displaying the image data equally as well.

### ***Response to Arguments***

Applicant's arguments with respect to Claims 1, 2, 4-15 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ke Xiao whose telephone number is (571) 272-7776. The examiner can normally be reached on Monday through Friday from 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

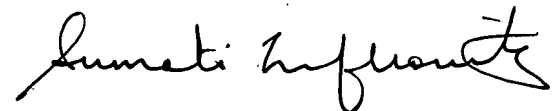


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November 27<sup>th</sup>, 2007 - kx -



SUMATI LEFKOWITZ  
SUPERVISORY PATENT EXAMINER